consequently are limited in oviposition to such trees as have their buds fully formed at that time. The same requirements are encountered among other species, such as *S. cyniformis*, which oviposit in seed receptacles.

Among the leaf-ovipositing species, those that insert the eggs in incisions in the tissue restrict themselves to plants having leaves with certain physical qualities. When one surface is punctured the wound must remain permanently open to permit of the later escape of the larvae. This rules out the plants that exude appreciable amounts of sap from leaf wounds. Plants with rather fleshy and smooth leaves, such as *Artocarpus*, *Citrus*, and *Codiaeum*, are most frequently chosen. The two leaf-ovipositing species observed in Ceylon, representing the genera *Parapsilogaster* and *Chalcura*, both deposit the great bulk of their eggs in *Artocarpus*. *Orasema smithi* and *Kapala terminalis*, which were found in the same habitat at Hoyo Colorado, Cuba, both oviposit in the leaves of *Casearia*. *O. coloradensis*, however, chooses the small and very delicate leaves of *Stylosanthes*. The collection notes of C. F. Baker, given by Gahan in his discussion of *O. wheeleri* Wheeler, show three collections on separate dates on *Eriogonum* at Fort Collins, Colorado. It is quite possible that the females were ovipositing in the leaves of that plant.

In the temperate regions, where the various species apparently have only a single generation each year and the adults are present for only a very short period, the number of plant species that serve for oviposition is at a minimum and a single one may suffice. That chosen in one locality may differ from the one favored in another. Some of the tropical Eucharidae, most of which are assumed to have overlapping generations throughout the year, may change their oviposition plants with the seasons. This is of most probable occurrence among those that oviposit in buds, particularly flower buds, and seed receptacles.

The above generalization regarding the factors influencing the choice of plants for oviposition apparently does not hold true with species that deposit their eggs in expanding flower buds, and some, at least, exhibit a strong response to what is apparently an odor stimulus. The most striking example of such a reaction was observed in *Eucharis scutellaris*, which places its eggs in the flower buds of *Cebatha orbiculata*. A sprig of this vine held near an ant nest from which *Eucharis* is emerging will attract all females in the vicinity within a few minutes. If shaken off they immediately return to the buds and cling to them tenaciously. The males, however, are not attracted to these buds.

Only two species are known to deposit their eggs at random on the leaf surface, but in these instances the plants favored for oviposition have leaves with a hairless and glossy under surface.

RATE OF OVIPOSITION

The total egg capacity of the females of the Eucharidae ranges from a minimum of about 1,000 to a maximum of 10,000 or more. The eggs are very minute, seldom exceeding 0.2 mm in length even in the larger species, and those of the smaller species may not exceed 0.1 mm. The smaller total given above is for *Stilbula tenuicornis*, which deposits the entire lot en masse in a bud during an elapsed time averaging 20 minutes. This is at the rate of one egg a second, and consequently they must flow from the ovipositor in virtually an unbroken stream during this period. Where the parasite population is high, as in one locality near Koiwai, Japan, several of these masses are deposited in each bud, and one rather sparse mulberry bush 7 feet in height was estimated to contain 4,320,000 eggs. One bud was found to contain 24 egg masses. Because of the limited space available in the bud a high pressure must be exerted by the later females in forcing their eggs into the bud, and instances were seen where previously deposited eggs had been forced out through the older ovipositor puncture holes in the bud scales. The most striking illustration of such pressure was observed in *S. manipurensis*. One *Flamingia* bud showed a "ribbon" of eggs 2.5 mm in length and 1.0 mm in width that had been forced out from beneath the margin of a bud scale at a distance of 2 mm from the point of insertion of the ovipositor.

An undetermined species of *Kapala* from Cuba, which deposits its eggs at random on the leaf surface, has an exceedingly high egg capacity. One female deposited a total of approximately 10,000 eggs during a period of six hours. While the rapidity of deposition does not equal that of *Stilbula*, yet the total is much greater. Parker (1937) mentions the possibility of the production of 10,000 to 15,000 eggs by each female of *Stilbula cyniformis*.

In general it is the habit of the species that deposit their eggs en masse to complete oviposition the day of emergence from the host nest, and this appears to be true also of those that place them at random on the surface of leaves. Those that insert them singly or in small groups in leaf tissue are more deliberate in their oviposition activities and this may extend over one week or more. The number of eggs deposited each day is consequently only a few hundred, though a female of *Schizaspidia antennata* was seen to make 10 to 12 insertions of the

ovipositor a minute, which represents a deposition of about 30 eggs during that period. In other species, however, the interval between insertions is much longer.

LITERATURE CITED

CLAUSEN, CURTIS P. *The biology of* Schizaspidia tenuicornis *Ashm., a eucharid parasite of* Camponotus. Ann. Ent. Soc. Amer. **16:** 195–[219], illus. 1923.

———. *The manner of oviposition and the planidium of* Schizaspidia manipurensis *n. sp.* (*Hymen., Eucharidae*). Proc. Ent. Soc. Washington **30:** 80–86, illus. 1928.

GAHAN, A. B. *A contribution to the knowledge of the Eucharidae* (*Hymenoptera: Chalcidoidea*). Proc. U. S. Nat. Mus. **88:** 425–458. 1940.

ISHII, TEI. *Some Philippine eucharids with notes on their oviposition habits.* Imp. Agr. Exp. Sta. Japan [Nishigahara, Tokyo] Bull. **3:** 203–212, illus. 1932.

PARKER, H. L. *On the oviposition habits of* Stilbula cynipiformis *Rossi* (*Hymen., Eucharidae*). Proc. Ent. Soc. Washington **39:** 1–3, illus. 1937.

PIERCE, W. D., and MORRILL, A. W. *Notes on the entomology of the Arizona wild cotton.* Proc. Ent. Soc. Washington **16:** 14–23. 1914.

SMITH, H. S. *The chalcidoid genus* Perilampus *and its relation to the problem of parasite introduction.* U. S. Bur. Ent. Tech. Ser. **19:** 33–69, illus. 1912.

———. *The habit of leaf-oviposition among the parasitic Hymenoptera.* Psyche **24:** 63–68, illus. 1917.

WHEELER, WILLIAM MORTON. *The polymorphism of ants, with an account of some singular abnormalities due to parasitism.* Bull. Amer. Mus. Nat. Hist. **23:** 1–93, illus. 1907.

ENTOMOLOGY.—*A genus of histerid beetles new to the United States.*[1] RUPERT L. WENZEL, Field Museum of Natural History. (Communicated by EDWARD A. CHAPIN.)

During the summer of 1938, I had occasion to visit the U. S. National Museum and to examine briefly the Histeridae of that institution's collection. A specimen collected in Texas and determined by Herbert S. Barber as *Reninus salvini* Lewis was called to my attention. Reference to the original description of that species revealed a discrepancy between the specimen and the description; however, on the basis of notes made by Dr. Gilbert J. Arrow, of the British Museum, who kindly examined the type, there can be no doubt that the Texas example is to be referred to that name. Since the genus *Reninus* has not heretofore been known from America north of Mexico, a generic and species description are given here. Acknowledgment is due Dr. Edward A. Chapin and H. S. Barber for their kind cooperation in making the specimen available for study.

Genus **Reninus** (s. str.) Lewis

Reninus Lewis, 1889, p. 275.
Renia Lewis, 1885, p. 467.

Form oblong-oval, moderately convex. Head with a marginal carina on each side of the epistoma, the carina continuous with the supraorbital stria. Labrum transverse, its anterior margin straight or with a slight production inferiorly. Antennae with nine articles, the club consisting of a "single" article, which is strongly sclerotized at base and densely pubescent at apex;

[1] Received July 25, 1940.

flagellum articulated laterally to the antennal scape, which is angulately swollen distally. Pronotum transverse, anterior angles obliquely truncated; marginal pronotal stria present, lateral pronotal striae absent. Elytral striae carinate. Propygidium transverse, hexagonal, nearly twice as broad as long. Pygidium subcircular, nearly vertical. Prosternal keel striate, basal margin deeply, angulately incised; prosternal lobe broad. Antennal cavities deep, visible from beneath. Mesosternum very short, consisting of little more than a strongly angulate process, which fits into the incised prosternal base. Tibiae rather strongly expanded; all the tarsal grooves distinct, straight, only their inner margins well defined. Outer margin of anterior tibiae broadly, evenly arcuate, multidenticulate, the denticles fine, short, spinelike. Outer margin of middle and posterior tibiae more or less angulate, denticulate as in the anterior tibiae. All the tarsi of five articles, ultimate article bearing two claws.

Genotype.—Reninus meticulosus Lewis, 1885, p. 467.

According to Reichensperger (1935, p. 26), the genus *Brachylister* Bickhardt (1917, p. 234) should be placed under *Reninus* and is not to be accorded any higher ranking than that of a subgenus. The arguments in favor of this arrangement are well founded, and it will probably be most satisfactory to follow it.

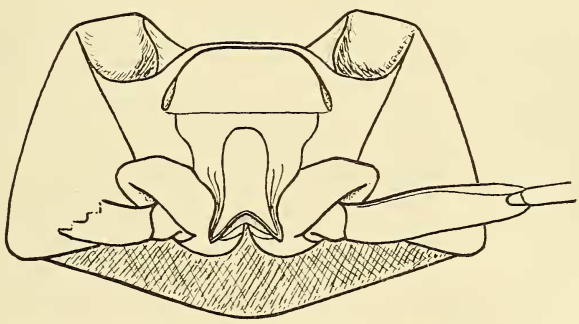

Fig. 1.—*Reninus salvini* Lewis: View showing gross structure of under side of prothorax.

My diagnosis of *Reninus* would undoubtedly be of more value if it were based on all the species known; however, since many of the forms are unavailable, the description is based on characters known to me, and it will serve to separate *R. salvini* from the species of other North American histerid genera.

Reninus belongs to the tribe Hetaeriomorphini of the subfamily Hetaerinae and may be separated from the other North American genera of the tribe as follows:

1. Elytra with dorsal striae.....2
   Elytra rather densely punctate, without dorsal striae.....4
2. Anterior margin of mesosternum deeply emarginate to receive the prosternal base; anterior tibiae subcircular; a lateral pronotal stria present .....*Yarmister* Wenzel (1939, p. 391)
   Anterior margin of mesosternum produced (feebly in *Ulkeus*), the mesosternal process received in the emarginate prosternal base; anterior tibiae not subcircular, though they may be strongly expanded; pronotum without a lateral stria in addition to the marginal stria.....3